西安纬度空间科技有限公司.

规 格 承 认 书

SPECIFICATION FOR APPROVAL

日 期 Date	
编 号 File No	
版 本 Revision	1.0

名称：902~928M天线

型号：WD-JB902~928-2.5S (胶棒天线)

客户确认CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
ChenGuoqiang	XieLi	ChenXingyi

承认书项目表

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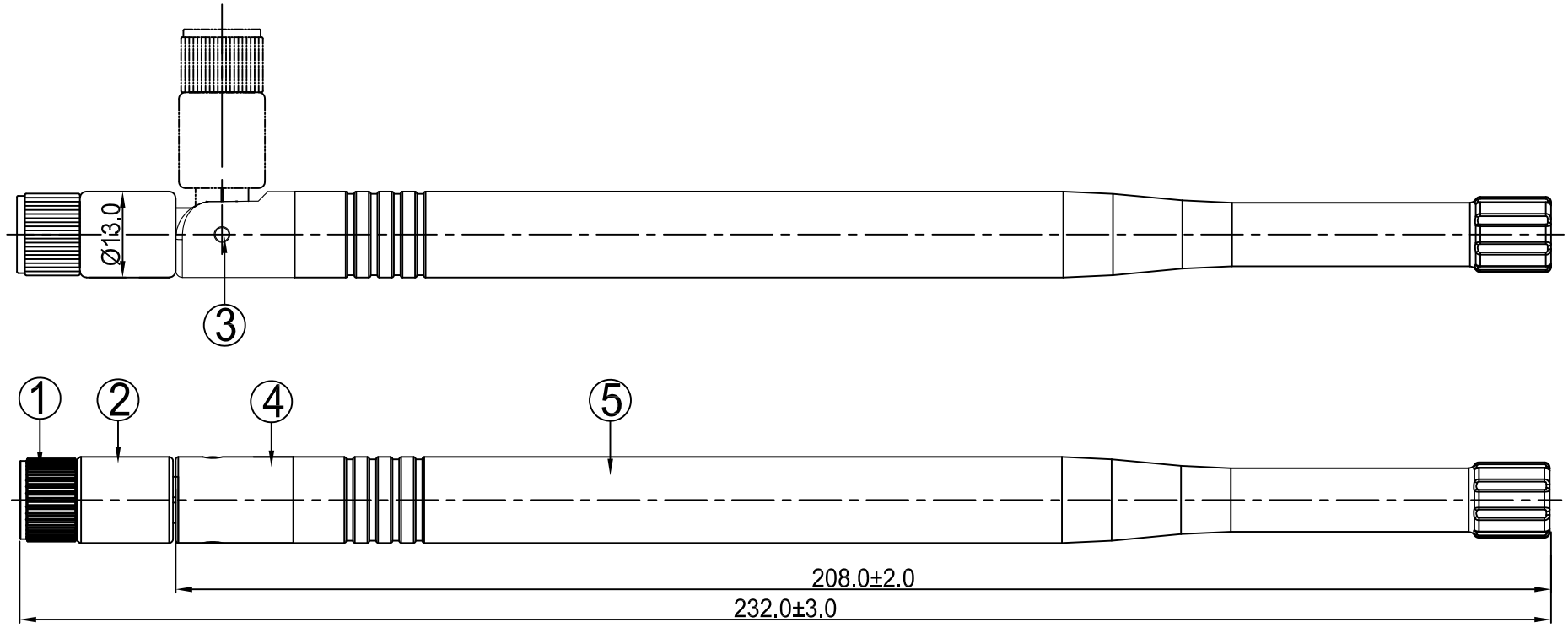
10	N/A	N/A	N/A
11	-	-	-
12	-	-	-
13	-	-	-

RoHS Compatible

CUSTOMER	
PART NO	

REV.	DESCRIPTION	DATE
A	首次发行	2022-07-20



NO	PART NAME	DESCRIPTION	PART NO.	Q.TY
5	Antenna Cap	TPE ,Color:Black	PLA10093A.B01	1
4	Rivet	POM, Color:Black	PIN10002A.B01	2
3	Upper Base	PC, Color:Black	PLA10022A.B01	1
2	Bottom Base	PC, Color:Black	PLA10032A.B04	1
1	SMA Male	POM Black	CON10119A.P01	1

西安纬度空间科技有限公司

PART NAME: 902~928MHz Antenna

PART NO.: WD-JB902~928-2.5S

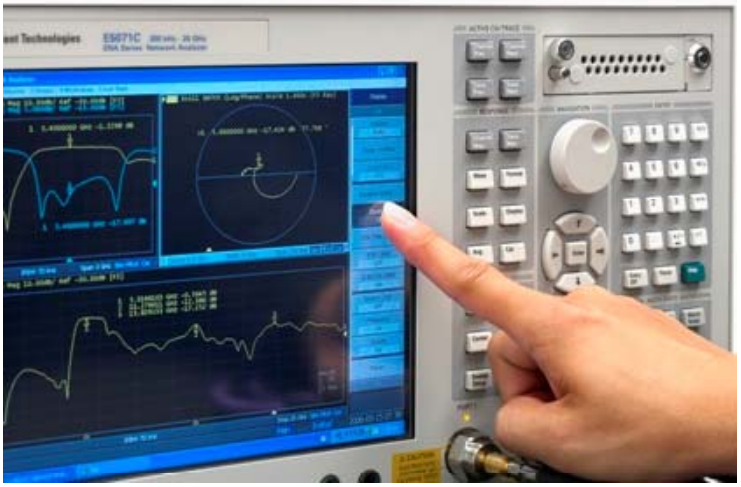
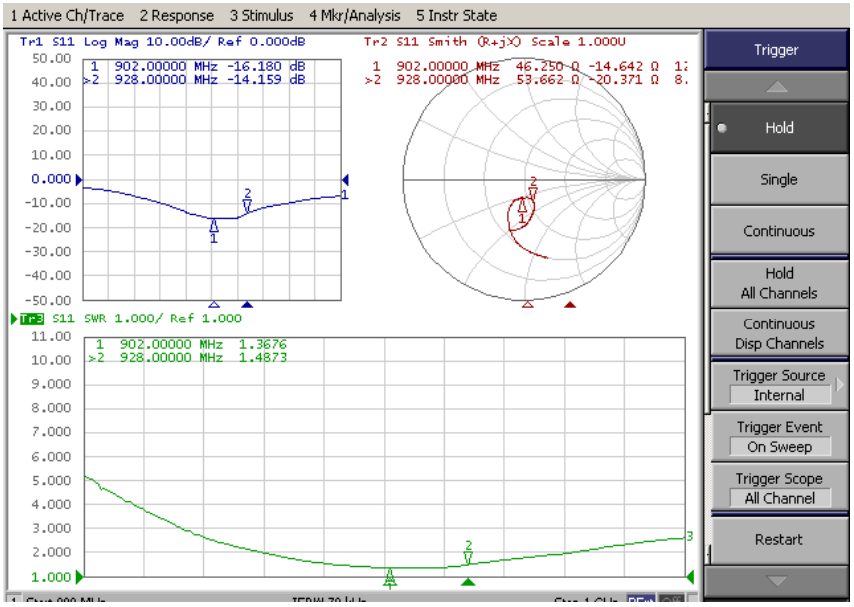
DATE: 2022-07-20

APPROVED BY	CHECKED BY	DESIDNED BY	
陈国强	林斌	罗旋	UNITS: mm SCALE: 1/1 REVISION: A

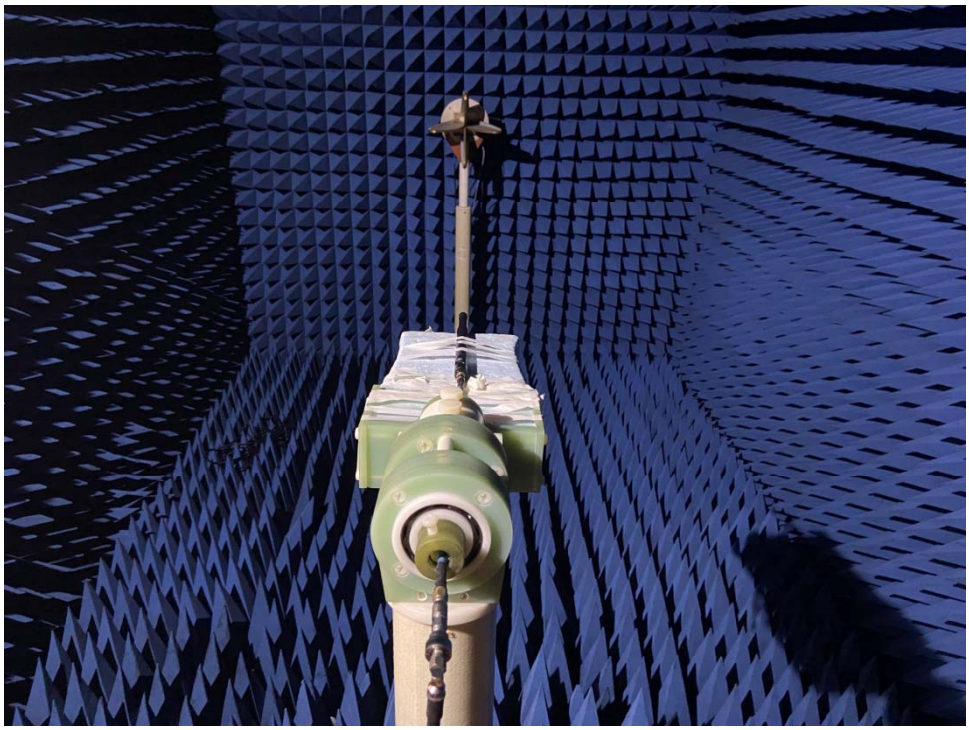
Tolerance
X.X ±0.50
X.XX±0.15
X° ±3°

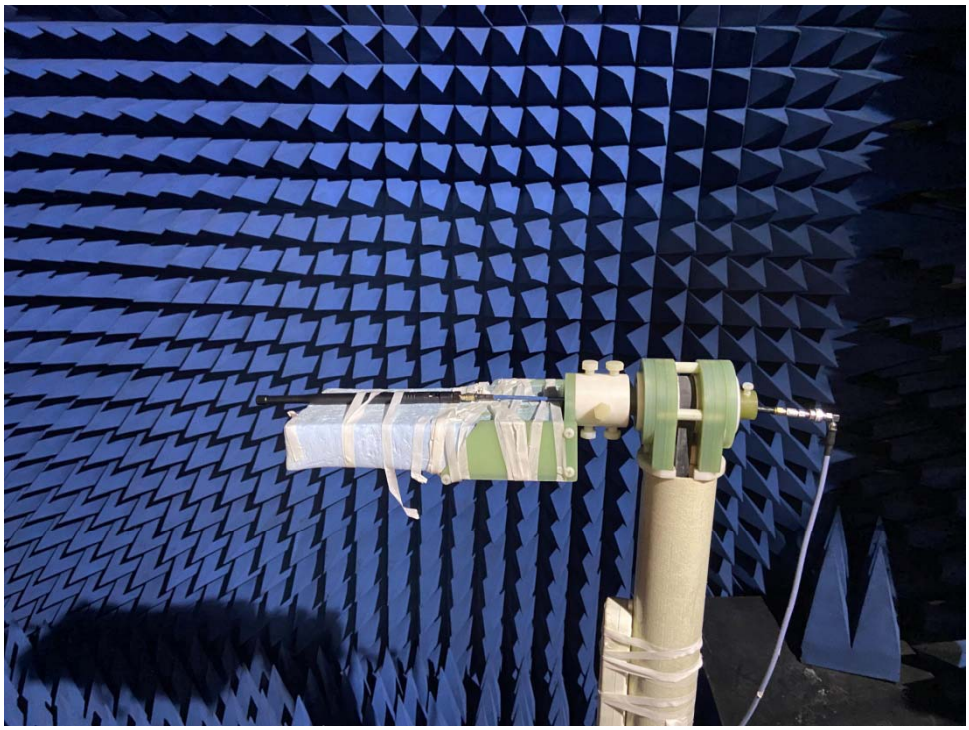
天线规格
Antenna Specification

Electrical Properties	
Frequency	902-928MHz
Impedance	50 Ohm Nominal
V.S.W.R	2.0 Max
Gain	2.5 dBi
Radiation	Omni-directional
Polarization	Linear
Physical Properties	
Connector	SMA Male
Cable Type	None
Cable Length	None
Cable Color	None
Operating Temp.	-40 ~ +85 ˚C
Storage Temp / Humidity	25±5˚C / <70%

Agilent E5071B	
S Parameter Test // 902-928Mhz Antenna	

Antenna Passive Test





Passive Test For 902-928Mhz Antenna			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
900	76.9	-1.1	2.3
903	77.4	-1.1	2.3
906	78.9	-1.0	2.4
909	81.0	-0.9	2.5
912	81.8	-0.9	2.5
915	81.7	-0.9	2.5
918	80.2	-1.0	2.4
921	79.4	-1.0	2.4
924	79.1	-1.0	2.4
927	77.8	-1.1	2.3
930	75.4	-1.2	2.1

Device	

902-928Mhz Antenna	

SHINKONG™

SHINITE®
TPEE

S201NA

Base polymer Grade / Nature
TPEE 一般級 / 本色

			Unit	Test Method	4000DH	5525DH	7200DH
Mechanical properties		**機械性質**					
Izod Impact(Notched)	23℃	衝擊強度	Kg-cm/cm	ASTM D256	NOT BREAK	NOT BREAK	22
	-40℃		Kg-cm/cm		NOT BREAK	NOT BREAK	7
Tensile modulus		拉伸模數	Kg/cm^2	ASTM D638, Type I	660	1630	5840
Nominal Tensile Strain at Break		拉伸率	%	ASTM D638, Type IV	700	545	405
Tensile Stress at Yield		降伏強度	Kg/cm^2	ASTM D638, Type IV	-	155	305
Tensile Strength		拉伸強度	Kg/cm^2	ASTM D638, Type IV	305	380	540
Flexural Strength		彎曲強度	Kg/cm^2	ASTM D790	65	130	320
Flexural Modulus		彎曲模數	Kg/cm^2	ASTM D790	900	2050	7410
Hardness (Shore D), 15sec		蕭氏硬度	-	ASTM D2240	43	53	74
Thermal properties		**熱 性 質**					
Heat Deflection Temperature	66psi	熱變形溫度	℃	ASTM D648	60	100	135
Flammability		防火性	-	UL94	HB	HB	HB
Melting Point		熔點	℃	DSC	185	204	218
Melt Index	2.16Kg	熔融指數	g/10min	ASTM D1238	6.6 (200℃)	17 (220℃)	20 (240℃)
Other properties		**其它性質**					
Specific Gravity		比重	-	ASTM D792	1.15	1.20	1.27
Water Absorption		吸水率	%	ASTM D570	0.67	0.50	0.19
Mold Shrinkage		成形收縮率	%	ASTM D955	0.8-1.8	1.2-2.2	1.3-2.3
Volume Resistivity		體積電阻	Ω-CM	ASTM D257			
CS-17 Taber abrasion	Load 500g	摩擦損耗	$mg/10^3$cycles	ASTM D1044			

以上數據僅供參考，實際數據以產品出廠檢驗報告為準
Data listed above is for reference. The actual quality of certain batch is varied within a specific range, as indicated in each

此塑料規格獲得UL防火認證，並經第三公正檢測單位檢驗通過RoHS和SVHC法規，歡迎至新光網站或來信查詢
This grade is UL V-0 approved, and comply with RoHS & SVHC regulation.
Feel free to inquire the testing report on www.shinkong.com.tw or mail to service@shinkong.com.tw

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SAFETY DATA SHEET（SDS）

Issued: September 26 , 2012
Revised: January 7 , 2014

FileNo. 1001

1.Chemical Product & Company Identification

CHEMICALPRODUCT NAME:	DURACON® M90-44 CF2001
NAME OF COMPANY:	Polyplastics Co.,Ltd.
SECTION IN CHARGE:	2-18-1 Konan, Minato-ku, Tokyo,108-8280 Japan
ADDRESS:	Quality Assurance Dept.
TELEPHONE NUMBER:	03-6711-8605
FACSIMILE NUMBER	03-6711-8616

2. Hazards identification

[GHS CLASSIFICATION]

Physical and Chemical Hazards : ・Flammable solids : Classification not possible
・Self-reactive substances and mixtures : Not applicable
・Pyrophoric solids : Not classified
・Self-heating substances and mixtures : Not classified
・Substances and mixtures, which in contact with water, emit flammable gases : Not classified
・Oxidizing solids : Not classified
・Corrosive to metal : Not classified

Health Hazards : Carcinogeneses : No hazard
Specific target organ/systemic toxicity (Repeated exposure) : No hazard

[GHS CLASSIFICATION]

Environmental Hazards : No hazard

[SYMBOL] : None

[SIGNAL WORD] : None

[HAZARD STATEMENT] : None

[PRECAUTIONARY STATEMENTS]

Prevention : ・Wash hands thoroughly after handling.
・Wear protective gloves.

Response : –

Storage : Avoid direct sunlight and store in a well-ventilated place.

Disposal : Dispose of contents/container in accordance with local & national regulations.

3. Composition/information on ingredients

SUBSTANCE/PREPARATION	: Substance
COMMON CHEMICAL NAME	: Polyoxymethylene
SYNONYMS	: Polyacetal(POM)
INGREDIENTS AND COMPOSITION	: POM ≧99%, Others ≦1%
CHEMICAL FORMURA	: $-[(CH_2-O)_p/(CH_2CH_2O)_q]_n-$
SERIAL No. IN OFFICIAL GAZETTE	: 7-129(base resin) (Law Concerning Examination and Regulation of Manufacture, etc., of Chemical Substances)
CAS №.	: 24969-26-4(base resin)
INGREDIENTS CONTRIBUTING TO THE HAZARD	: Formaldehyde. Cadmium, lead, hexavalent chromium and mercury are not used in this grade.

4. First-aid measures

INGESTION : When a gas generated from the molten polymer has been inhaled, move to area of fresh air without delay and wait until the victim is recovered. If sick feeling continues, ask a physician for advice.

SKIN CONTACT	:	Cool the contacted skin with clean water without delay, if a contact with the polymer in a molten form. Do not force to remove the solid resin on the skin. If any burns are observed on the skin, ask a physician for advice.
EYE CONTACT	:	Cool and rinse the eye with clean water for at least 15 minutes when the eyes had contact with molten polymer. In case of wearing contact lenses, remove the lenses as soon as possible, and ask a physician for advice. When the eye had contact with the polymer in an ordinary solid form, rinse the eye with clean water without delay. If the discomfort persists, ask a physician for advice.
SWALLOW	:	Help to vomit as much as possible. If sick feeling continues, and ask a physician for advice.

5. Fire-fighting measures

EXTINGUISHING MEDIA	:	Water, foam fire-extinguishing agent, powder fire-extinguishing agent, and carbon dioxide gas.
SPECIFIC METHODS	:	Extinguish the fire with water. A method of extinguishing an ordinary fire may be applied. Do not apply water directly to processing machines.
SPECIFIC HAZARDS	:	Incomplete combustion leads to generation of toxic gases such as carbon monoxide or formaldehyde, in addition to carbonic acid gas and water.
SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS	:	In case the fire gained force, use a gas mask or other protective equipment.

6. Accidental release measures

PERSONAL PRECAUTIONS	:	When pellets were spilled on the road or floor, wipe them off with a besom or cleaner not to cause slipping.
ENVIRONMENTAL PRECAUTION	:	Handle the spillage in accordance with provisions given in the "Resin pellet spillage preventive manual", in order to prevent intakes by marine animals and birds.

7. Handling and storage

HANDLING	:	Polyacetal resin in a pellet form will neither ignite nor explode at room temperatures, but it falls under the inflammables designated by the Fire Service Law. Keep it away from the igniting sources, as it quickly gains force once it is ignited.
HANDLING 2	:	Polyacetal resin in a powdered form is likely to cause dust explosion and is therefore designated in the Guideline for Hazard of Dust Explosion in U.S.Bureau of Mines. Effective earthing means or use of inert gas like N2 are required for dust handling equipment to eliminate static electricity.
HANDLING 3	:	This pellets spilled on the floor are likely to cause slipping. Remove such spillage at any times.
HANDLING 4	:	For molding work, effective means for local exhaust are required to discharge gases generated by melt processing.
HANDLING 5	:	Avoid inhaling of gases generated in molding work. Do not directly touch resin of high temperature.
HANDLING 6	:	Avoid retaining hot resin in the processing machines for many hours.
HANDLING 7	:	Avoid mixed extrusion with strong acid, oxidizing agents and PVC.
STORAGE	:	Keep the substance away from any fire or heat sources for the sake of safe storage.
STORAGE 2	:	This polymer is a synthetic resin designated as an inflammable substance by the Fire Service Law and should be handled in accordance with municipal rules and regulations (concerning fire-fighting equipment, indoor storage, for instance).

RECOMMENDED PACKAGING MATERIALS	:	No information.

8. Exposure controls/ personal protection

CONTROL CONCENTRATION	:	None at present
PERMISSIBLE CONCENTRATION	:	OSHA PEL/1985 Max. permissible concentration of inactive powder 15mg/m3 - ditto - (Aspiration) 5mg/m3 ACGIH TLV/1992 1993 Exposure limit of the powder TWA 10 mg/m3 (Reference) Human exposure to formaldehyde - Ministry of Health & Welfare/2002 Guideline value 0.08 ppm OSHA Parameter/1992 TWA 0.75 ppm STEL 2 ppm ACGIH TLV/1992 1993 TWA 0.3 ppm
ENGINEERING MEASURE	:	・When handling dust: Use totally enclosed containers resisting dust explosion. ・When heat melted in molding: Effective local ventilation must be provided.
PERSONAL PROTECTIVE EQUIPMENT		
RESPIRATORY PROTECTION	:	Wear a dust-proof mask.
HAND PROTECTION	:	Wear heat-resisting gloves against burns, when handling molten polymer.
EYE PROTECTION	:	Wear protective glasses or goggles.
SKIN & BODY PROTECTION	:	Wear long sleeve clothes against burns, when handling molten polymer.

9. Physical and chemical properties

APPEARANCE etc.	:	Pellet
BOILING POINT	:	Not applicable
VAPOUR PRESSURE	:	Not applicable
VOLATILITY	:	Not applicable
INITIAL BOILING POINT	:	Not applicable
SUBLIMATION	:	None
MELTING POINT	:	165℃
DENSITY	:	1.41
SOLUBILITY	:	Insoluble in water
FLASH POINT	:	320℃ or higher
IGNITION POINT	:	400℃ or higher
EXPLOSION PROPERTY	:	Not applicable
INFLAMMABILITY	:	Inflammable(Designated as inflammable resin by the Fire Service Law)
REACTIVITY WITH WATER	:	None
OXIDIZABILITY	:	None
SELF-REACTIVITY	:	None
DUST EXPLOSIVENESS	:	Upper explosion limit : Not applicable. Lower explosion limit : 35g/m3

10. Stability and reactivity

STABILITY AND REACTIVITY	:	Stable for normal storage or handling.
CONDITIONS TO AVOID	:	Avoid contacts with strong acid, oxidizing agent or PVC under hot melt conditions.
HAZARDOUS DECOMPOSITION PRODUCTS	:	Formaldehyde will be generated when heated (for drying or melting) or burnt.

11. Toxicological information

SKIN CORROSION/IRRITATION	:	No finding.
SERIOUS EYE DAMAGE/IRRITATION	:	Gas generated in drying or melting is irritating eyes and skins.
RESPIRATORY OR SKIN SENSITISATION	:	No finding
ACUTE TOXICITY(INCLUDING LD50)	:	No finding.
SUBACUTE TOXICITY	:	No finding.
CHRONIC TOXICITY	:	No finding.
CARCINOGENECITY	:	No finding.
MUTAGENECITY(Micro organisms, chromosomal aberration)	:	No finding.
REPRODUCTIVE TOXICITY	:	No finding.
TERATOGENICITY	:	No finding.
OTHERS(Including generation of hazardous gases by reaction with water, for example)	:	No finding in this report means that there will be no hazard in general, but no proving data available at the time of reporting.
OTHER CAUTIONS	:	With regard to dust, the maximum permissible concentration and limits are fixed by OSHA and ACGIH.
OTHER CAUTIONS 2	:	Formaldehyde will be generated when heated (for drying or melting) or burnt.
OTHER CAUTIONS 3	:	Carcinogenicity class of formaldehyde, which may be generated if overheated. IARC(International Agency for Research on Cancer): Group1

12. Ecological information

BIODEGRADABILITY	:	No finding.
BIOACCUMULATION	:	No finding.
FISH TOXICITY	:	No finding.
HAZARDS TO OZONE LAYER	:	None

13. Disposal considerations

WASTE FROM RESIDUES	:	This is designated as waste plastics among industrial wastes by the Wastes Disposal Law. Disposal waste pellets through licensed wastes handlers or local autonomous bodies if they are handling wastes disposal.
WASTE FROM RESIDUES 2	:	When disposed by incineration, use the well controlled incinerators in accordance with the Wastes Disposal Law, Air Pollution Control Law and Water Pollution Prevention Law.

14. Transport information

UN CLASSIFICATION NUMBER	:	Not applicable
OTHER CAUTIONS	:	Handle with care so as not to give damages to containers or not to be subjected to wetting.
OTHER CAUTIONS 2	:	Secure the containers firmly so as not to cause collapsing.

15. Regulatory information

FIRE SERVICE LAW	:	Inflammable synthetic resin Designated quantity: More than 20m3 for the foamed product. More than 3,000 kg for other types.
WASTE DISPOSAL LAW	:	Waste plastics among industrial wastes.
OTHERS	:	Formaldehyde is designated as Class 2 substance by the Industrial Safety and Health Law(Regulations concerning hazards caused by specific chemicals) and designated as deleterious substance by the Poisons and Deleterious Substance Control Law. Recommended usage, criteria, and limit values are provided by Japan Industrial Safety and Health Society, OSHA and ACGIH.

16. Other information

HANDLING OF THE DETAILS GIVEN ABOVE	:	This SDS is the English version translated from the Japanese SDS which is prepared for domestic use.

Details given above are based on references, information and data available at this moment, but no warranty can be made on exactness of these details. They are also prepared on the assumption that the product will be handled in a normal way. For special handling, adequate safety and environmental measures should be taken in respect to its applications. Our products are not specifically intended for implants for medical and dental applications, and therefore they are not recommended for such applications.
"No finding" in this report means that there will be no hazard in general, but no proving data is available at the time of reporting.

WHERE TO CALL FOR FURTHER INFORMATION	:	Polyplastics Co., Ltd. Quality Assurance Dept. Tel. No 03-6711-8605

*DURACON® is a registered trademark of Polyplastics Co., Ltd. in Japan and other countries.

CHIMEI
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CHI MEI CORPORATION

No. 59-1, SAN CHIA, JEN TE DISTRICT, TAINAN CITY, TAIWAN
TEL: +886-6-266-5000 FAX:+886-6-266-5555~7

General PC WONDERLITE® Characteristics PC-110

特性 PROPERTIES	測試方法 ASTM TEST METHOD	測試條件 TEST CONDITION	單位 UNIT	通用級 GENERAL PC-110
熔融指數 Melt Flow Index	D1238	300 ℃, 1.2 Kg	g/10 min	10.0
比重 Mass Density	D792	23 ℃	-	1.2
硬度 Hardness	D785	-	M Scale	77
拉伸強度 (屈服) Tensile Strength (Yield)	D638	6 mm/min	Kg/cm^2	630
			lb/in^2	8935
延伸率 Tensile Elongation	D638	6 mm/min	%	110
彎曲強度 Flexural Strength	D790	1.3 mm/min	Kg/cm^2	920
			lb/in^2	13030
彎曲彈性模數 Flexural Modulus	D790	1.3 mm/min	10^4 Kg/cm^2	2.4
			10^5 lb/in^2	3.4
IZOD 衝擊強度 Izod Impact Strength	D256 (Notched)	3.2 mm, 23℃	Kg-cm/cm	87
			ft-lb/in	15.9
維氏軟化溫度 Vicat Softening Temp.	D1525	1 Kg,50 ℃/hr	℃	150
熱變形溫度 Heat Distortion Temp.	D648 (annealed)	132℃×8 hours Loading 4.6 kg/cm^2	℃	146
UL 燃燒等級 UL Flammability	UL 94	-	-	1.5 mm V-2

January 23, 2014

Notes：These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

The above statement is based on our current level of knowledge and covers the above products directly manufactured and supplied by CHI MEI CORPORATION at the date of issue. CHI MEI CORPORATION makes no warranties, whether express or implied, and assumes no liability in connection with any use of above information. Notwithstanding the foregoing, CHI MEI CORPORATION shall in no event be held obligated or liable for any claims due to or arising from (i) any customer provided, consigned, materials and/or parts, which are incorporated or adopted in the products; (ii) any combination of the products with material not provided or authorized by our company; (iii) any modifications to the products which are made or directed by customer; (iv) our compliance with the specifications, instructions, and/or designs provided by customer; (v) any anti-trust, unfair competition and/or other unlawful actions effected by customer; or (vi) any defects, infringement, breach and/or violation which are arising out of customer's faults or otherwise not solely and directly attributable to CHI MEI CORPORATION. In no event will CHI MEI CORPORATION be liable for any indirect, special, exemplary, punitive, or consequential damages (including lost profits) of any nature whatsoever whether arising out of the purchase, shipment, unloading, handling, or use of any product or otherwise.

物質安全資料表(MSDS)

一、物品與廠商資料 Material and Vendor Information

物品名稱 Material Name：黃銅棒 Brass stick
客戶料號 Vendor Part No: C3604 C3602
物品編號 Material Model No.：C3604 C3602
製造商或供應商名稱、地址及電話 Name, address and Tel. No. of Manufacturer/Vendor：信興銅鋁實業有限公司 廣東佛山南海 0757-85561136
緊急聯絡電話/傳真電話 Tel/Fax. No. For Emergency：TEL：0757-85595363 FAX：0757-85553089

二、成分辨識資料 Component Information

純物質 Pure Component：

中英文名稱 Chinese and English Name：銅（Cu）、鋅（Zn）、鉛（Pb）
同義名稱 Synonymous Name：Not applicable
化學文摘社登記號碼(CAS No.)：Cu: 7440-50-8; Zn: 7440-66-6; Pb: 7439-92-1; Fe: 7439-89-6
物質成分(成分百分比)Component Percentage ： Cu: 57~61% Zn: Others Pb:1.8~3.7% Fe:0.5%MAX

混合物 Mixture Component：

化學性質 Chemical Nature： 常溫穩定 Stable at normal temperature		
危害物質成分之中英文名稱 Chinese and English Name of Hazardous Component	濃度或濃度範圍(成分百分比)Concentration/Concentration Scope(percentage)	危害物質分類及圖式 Hazardous Component Class and Diagram
Pb（Lead）	1.8~3.7%	
Cd（Cadmium）	<100ppm	

三、危害辨識資料 Hazardous Component Identification

最重要危害效應	健康危害效應 Harm for Health：Cd Harm：（1）疼痛病 Ache （2）影響腎臟及呼吸系統，特別是腎臟衰竭 It will harm Kidney and respiration system, especial the kidney failure Pb Harm:影響中樞神經系統及腎臟 It will harm the Central Nervous System and Kidney
	環境影響 Harm for Environment：
	物理性及化學性危害 Physical and Chemical Harm：
	特殊危害 Special Harm：Cd Harm：（1）疼痛病 Ache （2）影響腎臟及呼吸系統，特別是腎臟衰竭 It will harm Kidney and respiration system, especial the kidney failure Pb Harm：影響中樞神經系統及腎臟 It will harm the Central Nervous System and Kidney
主要症狀 Main Symptoms：Cd：疼痛病 Ache, 腎臟衰竭 Kidney；Pb：影響中樞神經系統及腎臟 It will harm the Central Nervous System and Kidney	
物品危害分類 Hazardous Material Class：	

四、急救措施 First Aid Measure

不同暴露途徑之急救方法：Difference Exposure Approach and First Aid Measure • 吸入 Inhalation：是固態不會吸入 Not applicable as it is solid • 皮膚接觸 Skin Contact：用肥皂水及清水沖洗 Wash it using clean water and soap。 • 眼睛接觸 Eye Contact：用清水沖洗 Wash it using clean water。 • 食入 Ingestion：是固態不會食入 Not applicable as it is solid
最重要症狀及危害效應 The most important Symptoms and Harm effect：
對急救人員之防護 Protection for first aid person： 無
對醫師之提示 Requirement for Doctor： 遵照醫師囑咐 According to Doctor’s requirment

五、滅火措施 FireIghting Measures

佛山市南海区信兴铜铝实业有限公司

滅火時可能遭遇之特殊危害 Special danger may happen at firefighting：None
特殊滅火程式 Special Firefighting Procedure： None
消防人員之特殊防護設備 Special Protection Measure for fireman： None

六、洩漏處理方法: Leakage Treatment Measure

個人應注意事項 Cautions for Person： Not applicable
環境注意事項 Cautions for Environment： Not applicable
清理方法 Treatment Measure：Not applicable at normal temperature

七、安全處置與儲存方法 Handling and Storage Method

處置 Handling： 安放整齊，清楚標明規格料號。Lay it in order and mark specification and part No clearly.
儲存 Storage： 不得重摔與重壓，防潮，防蝕。常溫下儲存。Do not throw and press it heavily. Store it at dampproof, antiseptic and normal temperature

八、暴露預防措施 Exposure Protection

工程控制 Engineering Controls：
控制參數 Control Parameter： • 八小時日時量平均容許濃度/短時間時量平均容許濃度/最高容許濃度 Allowable Concentration for 8h daily/Allowable Concentration for short time/Allowable Maximum Concentration： • 生物指標 Biology target：
個人防護設備 Protection for Person： • 呼吸防護 Protection for Respiration： • 手部防護 Protection for Hands： • 眼睛防護 Protection for Eyes： • 皮膚及身體防護 Protection for Skin and Body：
衛生措施 Sanitation Measure：

九、物理及化學性質 Physical and Chemical Character

物質狀態 State： 固態 Solid	形狀 Shape：圓棒 round stick
顏色 Color： 黃色 Golden	氣味 Smell： None
pH 值 Ph Value：	沸點/沸點範圍 Boiling Point/Boiling Point Scope：
分解溫度 Melting Point： 800℃以上 800℃ above	閃火點 Sparkling Point： 測試方法 Test Method：光譜或化學分析 Spectrum or Chemical Analysis
自燃溫度 Temperature for Spontaneous Combustion：常溫下不自燃 Not Applicable at Normal Temperature	爆炸界限 Explosion Scope： None
蒸氣壓 Steam Pressure：	蒸氣密度 Steam Density：
密度 Density： 8.6g/cm^3 ( )	溶解度 Solubility：

十、安定性及反應性 Invariability and Reactivity

安定性 Invariability： 穩定 Stable
特殊狀況下可能之危害反應 Potential harmful reactiveness at special condition：
應避免之狀況 Avoid the following condition：高溫、重摔與重壓、潮濕 High Temperature, throw and press heavily, and damp
應避免之物質 Avoid the following material：酸 acid, 城 alkali
危害分解物 Harmful decompoundings： 氧化物 oxide

十一、毒性資料 Toxicity information

急毒性 Urgent toxicity： None
局部效應 Part effect： None
致敏感性 Causing sensitivity：None
[illegible]

特殊效應 Special effect： None

十二、生態資料 Ecological Information

可能之環境影響/環境流佈 Possible effect for environment：

十三、廢棄處置方法 Disposal Consideration

廢棄處置方法 Disposal： 回收重熔 Recycling and remelting

十四、運送資料 Transportation information

國際運送規定 International Transportation Regulation：
聯合國編號 UN No.：
國內運送規定 National Transportation Regulation：
特殊運送方法及注意事項 Special Transportation Method and Notice：木箱裝時，防止摔倒、重壓、箱體倒置及劇烈波動，致材料損傷變形 Avoid being damaged and deformed from tumbling, pressing heavily, inversing wood box and fluctuating heavily 。

十五、法規資料 Rule and Regulation Information

適用法規 Applicable rule and regulation： None

十六、其他資料 Other Information

參考文獻 Reference:	None	
Made by	Name： 信興銅鋁實業有限公司	
	Address： 廣東省佛山市南海大瀝奇槎舖前工業區 TEL：0757-85561136/85595363 FAX：0757-85553089	
Person:	Title：Manager	Name(Stamp)：關澤彬 13318213808
Date	2015-01-01	

物質安全資料表(MSDS)

一.物品與廠商資料

物料品称: 镀金液
供应商名称地址: 深圳市源佳誉钛金工艺有限公司
供应商地址: **深圳市松岗镇江边创业四路 8 号**
緊急聯絡電話:0755-27223209
联系人:赖生

二.成分辩识资料表:

构成镀液名称	组成镀液的化学名称	组成镀液占总量百分比	化学物质登录号 CAS NO.	备注
氰化亚金钾	$KAu(CN)_4$	1%	13967-50-5	
金开缸剂		20%	1087	
金添加剂		8%	1087	
钴添加剂		0.2%	10548	
水	H_2O	70.8%	7732-18-5	

三.危害辩识:

健康危害： 吸入后对呼吸道有刺激性。可引起哮喘，可致支气管炎。对眼有刺激性。皮肤接触可引起皮炎和湿疹，大量口服引起恶心、呕吐和眩晕
环境危害： 对环境有危害，对大气可造成污染。
燃爆危险： 本品不燃，具刺激性。

四.急救措施:

皮肤接触： 脱去污染的衣着，用大量流动清水冲洗。
眼睛接触： 提起眼睑，用流动清水或生理盐水冲洗。就医。
吸入：迅速脱离现场至空气新鲜处。保持呼吸道通畅。如呼吸困难，给输氧。如呼吸停止，立即进行人工呼吸。就医。
食入： 饮足量温水，催吐。饮纯牛奶，就医。

五.灭火措施:

危险特性：受高热分解产生有毒的氰化物烟气（当添加氰化金钾前提下）。
有害燃烧产物： 本品不燃。
灭火方法： 消防人员必须穿全身防火防毒服，在上风向灭火。灭火时尽可能将容器从火场移至空旷处。

六.泄漏处理方法:N/A

应急处理： 隔离泄漏污染区，限制出入。建议应急处理人员戴防尘面具（全面罩），穿防毒服。用大量水冲洗，洗水稀释后放入废水系统。若大量泄漏，收集回收或运至废物处理场所处置。

七.安全处理与存储方法:

操作注意事项： 密闭操作，局部排风。防止粉尘释放到车间空气中。建议操作人员佩戴自吸过滤式防尘口罩，戴化学安全防护眼镜，穿橡胶耐酸碱服，戴乳胶手套。避免产生粉尘。避免与过氧化物、钾接触。配备泄漏应急处理设备。倒空的容器可能残留有害物。
储存注意事项： 储存于阴凉、通风的库房。远离火种、热源。防止阳光直射。包装密封。应与过氧化物、钾、食用化学品分开存放，切忌混储。储区应备有合适的材料收容泄漏物。

八、暴露预防措施:

呼吸系统防护： 空气中粉尘浓度超标时，建议佩戴自吸过滤式防尘口罩。紧急事态抢救或撤离时，应该佩戴空气呼吸器。
眼睛防护： 戴化学安全防护眼镜。
身体防护： 穿橡胶耐酸碱服。
手防护： 戴乳胶手套。
其他防护： 工作场所禁止吸烟、进食和饮水，饭前要洗手。工作完毕，淋浴更衣。

九、物理及化学性质:

物质状态	液体		
外观	粉红色		
气味	淡腥		
溶解度	易溶解。		

十、安全性及反应性:

安全性:正常情况下危害反应:--
特殊情况下可能之危害反应:---氰化物中毒。

应避免之状况:---避免泄漏。
应避免之物质: 强氧化剂
危害分解物: 氰化物。

十一、毒性资料:

急毒性:吸入会刺激呼吸系统
局部反应:--裸手接触时间长会导致手部干燥。
致敏感性:--无
慢毒性或长期毒性:皮肤炎
特殊效应:--

十二、生态资料:

可能之环境影响/环境流布……破坏植被，提高海域化学需氧量。

十三、废弃处置方法:

废弃处置方法: 处理前参考现行法规.

十四、运送资料:

国际运送规定:如:DOT IATA/ICAO IMDG
联合国编号:--1087
国内运送规定:道路交通安全规则.
特殊运送方法及注意事项: 起运时包装要完整，装载应稳妥。运输过程中要确保容器不泄漏、不倒塌、不坠落、不损坏。严禁与氧化剂、活性金属等混装混运。运输途中应防曝晒、雨淋，

十五、法规资料:

适用法规:劳工安全卫生设施规则.

十六.其他資料

参考文獻	1.MSDS 資料庫,CCINFO 光碟,99-2 2.危害化學物質中文資料庫,環保署 3.RTECS 資料庫,TOMES PLUS 光碟,V01,41,1999

<table>
<tr><td>制表者單位</td><td colspan="4">名稱: 深圳市源佳誉钛金工艺有限公司
地址/電話: 深圳市松岗镇江边创业四路 8 号　0755-27223209</td></tr>
<tr><td rowspan="2">制 表</td><td>姓名:</td><td>職稱:</td><td>制表日期:</td><td>修訂日期:</td></tr>
<tr><td>赖友宁</td><td>经理</td><td>2013-1-15</td><td>2016-1-20</td></tr>
<tr><td colspan="5">備注:上述資料中符號〝--〞代表目前查無相關資料,
而符號〝N/A〞代表此欄位對該物質並不適用.</td></tr>
</table>

物质安全技术说明书(MSDS)

1. 产品及企业标识

- 产品名: 聚四氟乙烯
- 产品英文名: PTFE
- 生产企业名称:嘉善伟业四氟制品厂
- 地址:浙江省嘉善县魏塘镇银秀路 61 号
- 电话: 0573-84162085　　传真: 0573-84162007
- 邮编：314100
- 生效日期：2017 年 5 月 21 日

2. 成分/组成信息

主要成份	含量%	CAS 编号
聚四氟乙烯（PTFE）	100	9002-84-0

3. 危险性概述

- 危害性类别:不在《常用危险化学品的分类及标志》（GB 13690-92）中
- 侵害途径:吸入，眼睛接触，皮肤接触。
- 健康危害: 正常处理时不会产生危害。当加工时，材料在超过分解温度时可能产生有毒气体。吸入，灰尘会引起呼吸道刺激。暴露在 PTFE 分解产物中，可能导致聚合体烟雾发烧症状。有流感症状（高烧、冷颤、肌肉痛）；眼睛接触，灰尘会导致机械性刺激；皮肤接触，灰尘会导致机械性刺激；

4. 急救措施

- 皮肤接触：无需就医。
- 眼睛接触：用大量水冲洗，不要揉搓眼睛，如症状持续，需立刻就医。
- 吸入：移到新鲜空气中，保持呼吸通畅，如症状持续，需立刻就医。
- 食入：无需就医。

5. 消防措施

- 有害燃烧产物：一氧化碳，二氧化碳，氟化氢。

- 灭火方法及灭火剂：使用水雾，泡沫，干粉和 CO2。
- 灭火注意事项：消防员应携带自给式空气呼吸器(SCBA)和全身防护服。

6. 泄露应急处理

- 隔离泄露污染区,限制出入。
- 个人防护措施，如有毒气体产生，穿戴合适的个人防护用品。不要吸入粉尘。清除火源。防止接触皮肤和眼睛；环境预防措施，防止进入下水道，地表水或者土壤；清除方法，清扫或者铲入合适的容器，等待废弃处理。防止产生气载灰尘。

7. 操作处置与储存

- 操作注意事项：密闭操作，提供良好的自然通风条件。
  操作人员必须经过专门培训，严格遵守操作流程。建议操作人员佩戴自吸过滤式防尘口罩。
  远离火种，热源，工作场所严禁吸烟。
  使用防爆型的通风系统和设备。避免产生粉尘。避免与氧化剂接触。
  搬运时要轻装轻卸，防止包装及容器损坏。
  配备相应品种和数量的消防器材及泄露应急处理设备。倒空的容器可能残留有害物。
- 储存注意事项：储存于阴凉，通风的库房。
  远离火种，热源。应与氧化剂分开存放，切忌混储。
  配备相应品种和数量的消防器材。
  储区应备有合适的材料收容泄露物。

8. 接触控制/个体防护

- 中国MAC（mg/m3）:未制定标准
- 眼睛防护：必要时，佩戴化学安全防护眼镜。
- 其他：如有潜在暴露的地方，提供安全淋浴或者洗眼器。当材料被加工或者产生过多粉尘，不要抽烟或者保留烟雾物质在生产区域。吃饭或者抽烟前彻底清洗手。

9. 物理、化学、机械与电力特性

- 外观形态：通常为固态白色，半透明体,有板、棒、管、膜及异性部件等形态。
- 熔点：327 ℃

- 标准相对密度：2.1～2.3g/cm³
- 吸水率：≤0.00
- 拉伸强度：15-30 Mpa
- 断裂伸长率：200-350 %
- 介电常数：2.5-10Kv/mm

10. 稳定性和反应活性

- 禁配物：强氧化剂

11. 毒理学资料

- 无资料提供

12. 生态学资料

- 无资料提供

13. 废弃处置

- 废弃处理方法：请回收废料。在允许接受化学品废物设备中进行处理。如燃烧处理有可能产生氟化氢。

14. 运输信息

- 运输注意事项：起运时包装要完整，装载应稳妥。运输过程中要确保容器不泄露，不倒塌，不坠落，不损坏。严禁与氧化剂等混装混运。运输途中应防暴晒，雨淋，防高温。

15. 法规信息

- 国内化学品安全管理法规：《危险化学品安全管理条例》（2002 年 3 月 15 日国务院发布），针对危险化学品的安全生产、使用、储存、运输、装卸等方面均作出了相应规定。
- 国际法规：欧盟指示 2002/95/EC（RoHS） 符合

16. 其他信息

- 参考文献： 无资料
- 提示：本表所含的信息来源于我们认为准确的数据，但是未提供有关数据准确性或相关使用结果的明确或暗示性的保证。
- 嘉善伟业四氟制品厂对于由本材料导致购买方，用户或第三方所发生的人生伤害或财产损失不承担任何责任。相关材料使用的风险则由购买方或用户承担。